

**M 4.7, 19 km E of Petrolia, CA**

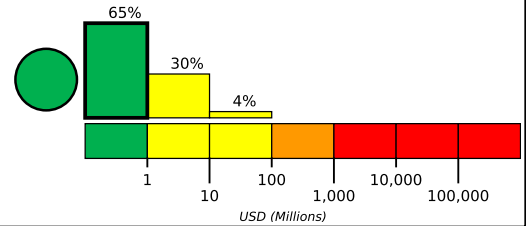
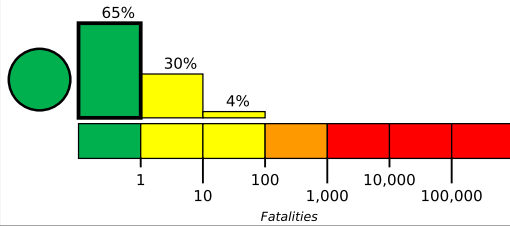
Origin Time: 2023-10-16 10:20:49 UTC (Mon 03:20:49 local)

Location: 40.3972° N 123.7792° W Depth: 10.0 km

Created: 2 hours, 5 minutes after earthquake

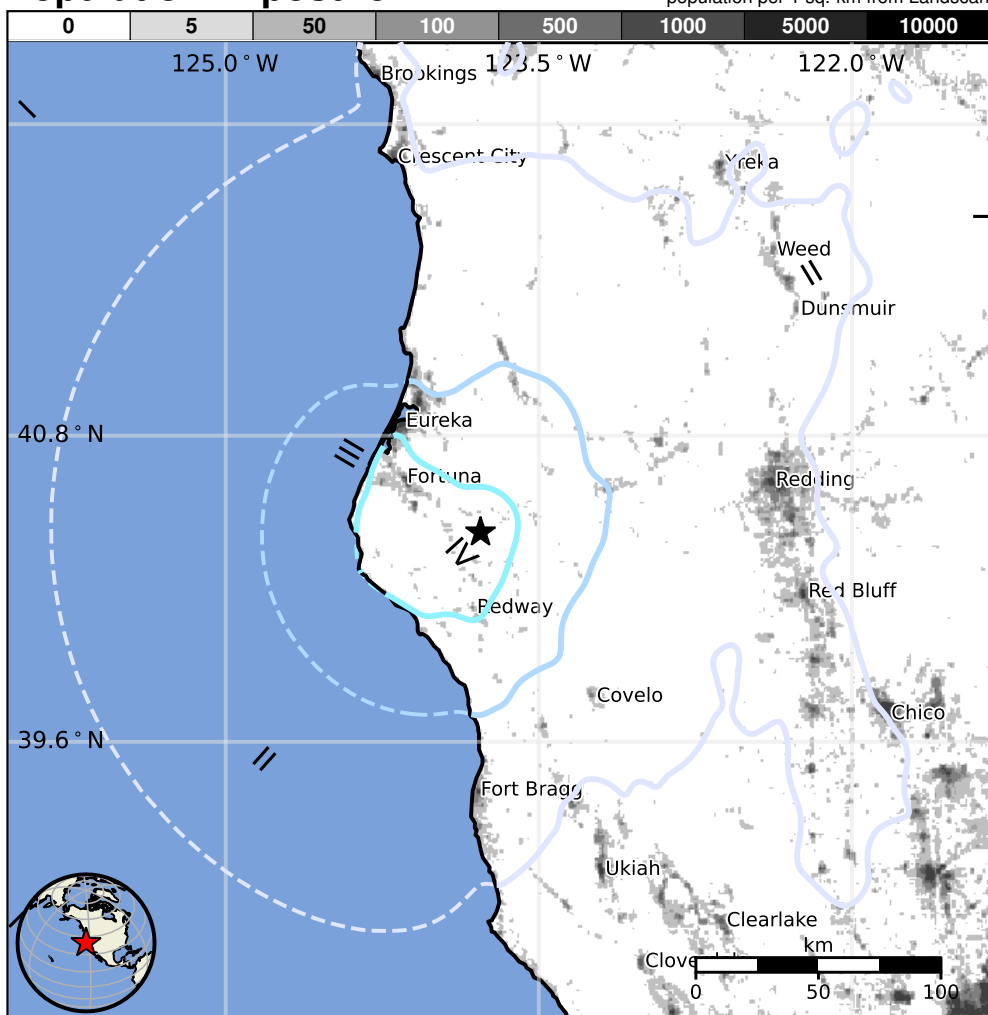
**Estimated Fatalities**

Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.

**Estimated Economic Losses****Estimated Population Exposed to Earthquake Shaking**

ESTIMATED POPULATION EXPOSURE (k=x1000)		1,128k*	705k	45k	0	0	0	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

\*Estimated exposure only includes population within the map area.

**Population Exposure****Structures**

Overall, the population in this region resides in structures that are resistant to earthquake shaking, though vulnerable structures exist. The predominant vulnerable building types are unreinforced brick masonry and reinforced masonry construction.

**Historical Earthquakes**

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1993-09-21	258	6.0	VI(47k)	1
1989-08-08	396	5.4	VII(4k)	1
1980-01-24	347	5.8	VII(35k)	1

Recent earthquakes in this area have caused secondary hazards such as landslides and liquefaction that might have contributed to losses.

**Selected City Exposure**

from GeoNames.org

MMI	City	Population
IV	Redway	1k
IV	Fortuna	12k
IV	Humboldt Hill	3k
IV	Ferndale	1k
IV	Hydesville	1k
IV	Pine Hills	3k
II	Redding	90k
II	Chico	86k
I	Yuba City	65k
I	Sacramento	466k
I	Arden-Arcade	92k

PAGER content is automatically generated, and only considers losses due to structural damage.

Limitations of input data, shaking estimates, and loss models may add uncertainty.

<https://earthquake.usgs.gov/earthquakes/eventpage/nc73947830#pager>

bold cities appear on map.

(k = x1000)

Event ID: nc73947830